

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I CLAIM:

1. An automatic rock saw comprising:
- a frame;
 - a blade operatively attached to the frame;
 - a blade motor mounted on the frame and operatively attached to the blade to power the blade;
 - a first conveyor having rollers and a conveyor belt to convey material to be cut to the blade, said first conveyor mounted on the frame such that the conveyor belt is perpendicular to the blade;
 - a second conveyor having rollers and a conveyor belt to convey material to be cut to the blade, said second conveyor mounted on the frame substantially parallel to and distance D1 away from the blade and above the horizontal conveyor;
 - a conveyor motor mounted on the frame and operatively attached to the first and second conveyor to power the conveyors such that both conveyor run at the substantially the same speed;
 - a sensor attached to the blade motor to detect load on the blade motor; and
 - a controller to control the speed of the conveyor motor based on an inverse relation to the load on the blade motor.

1 2. The rock saw of claim 1, wherein the inverse
2 relation of the load on the blade motor to the speed of the
3 conveyor motor is: speed of conveyor motor (mA) = blade motor
4 load (mA) X 1.5022 + 2.5450.

5 3. The rock saw of claim 1 further comprising a
6 holding mechanism to hold the material to be cut against the
7 second conveyor as it is carried to the blade.

8 4. The rock saw of claim 3 wherein the holding
9 mechanism further comprises:

10 at least one holding arm having a first and second

11 end;

12 the holding arm being rotatably attached to the frame

13 at the first end and located opposite the second

14 conveyor and spring biased in the direction of

15 the second conveyor; and

16 a holder movably attached to the second end, said

17 holder functioning to press the material to be

18 cut against the second conveyor and allowing the

19 material to move along the attachment.

20 5. The rock saw of claim 1 further comprising a water
21 jet to clean the material of cutting debris after the
22 material is cut by the blade.

23 6. The rock saw of claim 1 further comprising:

24 a second blade and second blade motor operatively

25 mounted on a blade frame;

1 the blade frame pivotally attached to the frame such
2 that the second blade is substantially
3 perpendicular to the blade and substantially
4 parallel to and above the first conveyor.

5 7. An automatic rock saw comprising:

6 a frame;

7 a circular blade means attached to the frame
8 functioning to cut a desired material;

9 a blade motor mounted on the frame and operatively
10 attached to the blade to power the blade means;

11 a first conveyor means perpendicular to the circular
12 blade means functioning to convey material to be
13 cut to the blade mounted on the frame;

14 a second conveyor means to convey material to be cut
15 to the blade means mounted on the frame
16 substantially parallel to and distance D1 away
17 from the circular blade and above the first
18 conveyor means;

19 a conveyor motor mounted on the frame and operatively
20 attached to the conveyors to power the conveyors
21 such that both conveyor run at the same speed;

22 a sensor means attached to the blade motor to detect
23 load on the blade motor;

24 a controller means connected to the sensor means to
25 control the speed of the conveyor motor and

1 functioning to vary the speed of the conveyor
2 motor means based on the load on the blade
3 motor.

4 8. The rock saw of claim 7 further comprising a
5 holding means functioning to hold the material to be cut
6 against the second conveyor means as it is carried to the
7 blade.
8